

Work Order ID 136728

Wednesday, September 02, 2015 2:45:42 PM

136728

Page 1

Item ID: 646.3312

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Center Plate

Start Date: 9/4/2015 Start Qty: 8.00 *8*

Cust Item ID:

Required Date: 9/4/2015 Req'd Qty: 8.00 *8*

Customer:

Reference:

Approvals: Process Plan: MLS Date: SEP 08 2015

Tooling:

Date:

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____

Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
646.3300	N/C3

100 0.00

100

BAND SAW

Bandsaw

Memo

Jeaspa Bandsaw

Cut Blank at 16.300"

*** ONE BLANK MAKES TWO PARTS ***

110

110

HAAS CNC VERTICAL MACHINING #1

HAAS 1.

Memo

HAAS CNC vertical machine #1

1-Machine per folio FB153

DWG REV: W/C

FOLIO REV: AT

2- deburr and break all sharp edges

3-Face to .375" if required

8

8

15/09/29

8

8

15/10/08

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

Work Order ID 136728***136728***

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Wednesday, September 02, 2015 2:45:42 PM

Item ID: 646.3312 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Center Plate
Start Date: 9/4/2015 Start Qty: 8.00 ***8*** Cust Item ID:
Required Date: 9/4/2015 Req'd Qty: 8.00 ***8*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC2- Inspect parts off machine FAI/FAIB	0.00							
120						8	8		15/10/08
QC	Memo	0.00							
Quality Control									
130	QC8- Inspect parts - second check	0.00							
130						8	8		DAS 44 15/10/26
QC	Memo	0.00							
Quality Control									
131		0.00							
131									
HandFinish	Memo	DAS 38 0.00							
Hand Finishing		9-89							

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

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Start Date: 9/4/2015 Start Qty: 8.00 ***8*** Cust Item ID:
Required Date: 9/4/2015 Req'd Qty: 8.00 ***8*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	Outsource process-Anodize per QSI017 4.1.10.1	0.00							
140									
Outsource4	Memo	24.00							
Outsource process - Anodize	Issue P/O to ATG : <u>30318</u>								
	1- Black Anodize as per Dwg 646.3300								
	2- PRIME AS PER DWG, SEE NOTE #2								
	Certification of Comformity is required								
150	Receive & Inspect for Damage & Mat'l Certs	0.00							
150									
Packaging	Memo	0.00							
Packaging									
155	QC5- Inspect part completeness to step on W/O	0.00							
155									
QC	Memo	0.00							
Quality Control									

CL OCT 30 2015 8

8x 8015-11-7

8 DAS 38 9-89 NOV 09 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
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Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

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Page 4

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Accept

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Item Name: Center Plate

Start Date: 9/4/2015 Start Qty: 8.00

8

Cust Item ID:

Required Date: 9/4/2015 Req'd Qty: 8.00

8

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

180

Identify as per dwg & Stock Location: CCK103 0.00***180***

Packaging

Memo

0.00

Packaging

IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV

8 MLJ 15-11-10

190

QC21- Final Inspection - Work Order Release

0.00

190

QC

Memo

0.00

Quality Control

MLJ 15-11-10
SH20151110

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
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Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

Picklist Print

Wednesday, September 02, 2015 2:45:42 PM

Page 1

Work Order ID: 136728

136728

Parent Item: 646.3312

646.3312

Parent Item Name: Center Plate

Start Date: 9/4/2015

Required Date: 9/4/2015

Start Qty: 8.00

Required Qty: 8.00

Comments: IPP REV:A NEW ISSUE 12/11/16 JFS VERIFY BY: JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M7075T6B5.000X0.375		Purchased	No			100	f	10.0590	0.68	5.726316			

M7075T6B5 000X0 375

7075-T6 BAR 5.000" X 0.375"

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
MAT005	10.059	
m130175	2	
m131259	7.309	
m131552	0.75	

M133215 5.73

mf
15109629

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
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Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

APICAL

INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE NO.

04765

SHEET 1 OF 1

DWG NO. 646.3300

REV: NC

PREPARED BY J. SOTO

DATE: 12/08/2014

EFFECT ON DWG
☐ INC. ☒ UNINC.

DWG TITLE: UPPER CUTTER ASSY

APPROVED BY: ENGR. *[Signature]*

MFG. *[Signature]*

QC *[Signature]*

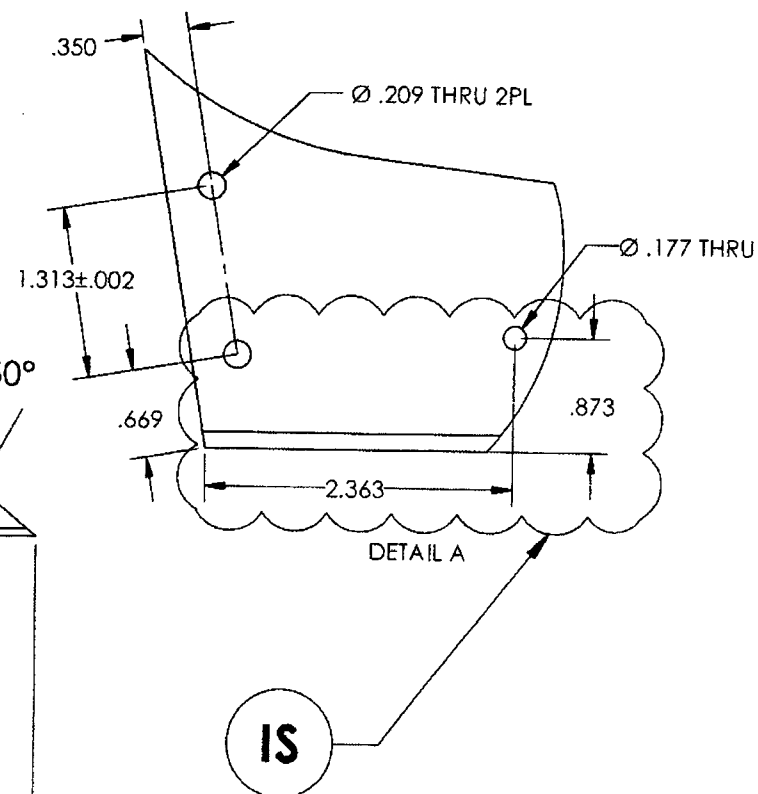
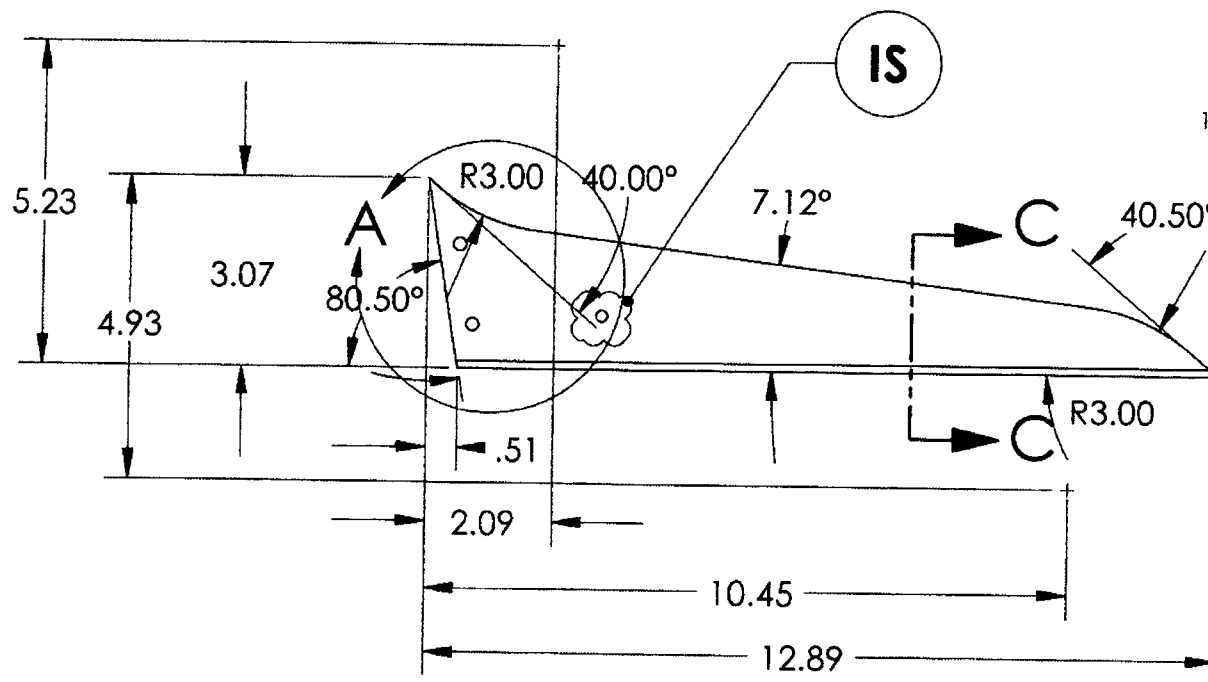
EFF. NEXT ORDER

TRANSACTION CODES (TC):
A-ADD
R-REVISE
C-CREATE
D-DELETE

REASON: ADDED HOLE DIMENSION TO 646.3313.

SHEET 5 IS:

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 136728 *ML5*
15-09-08



DOCUMENTS EFFECTED:

☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☐ BOM

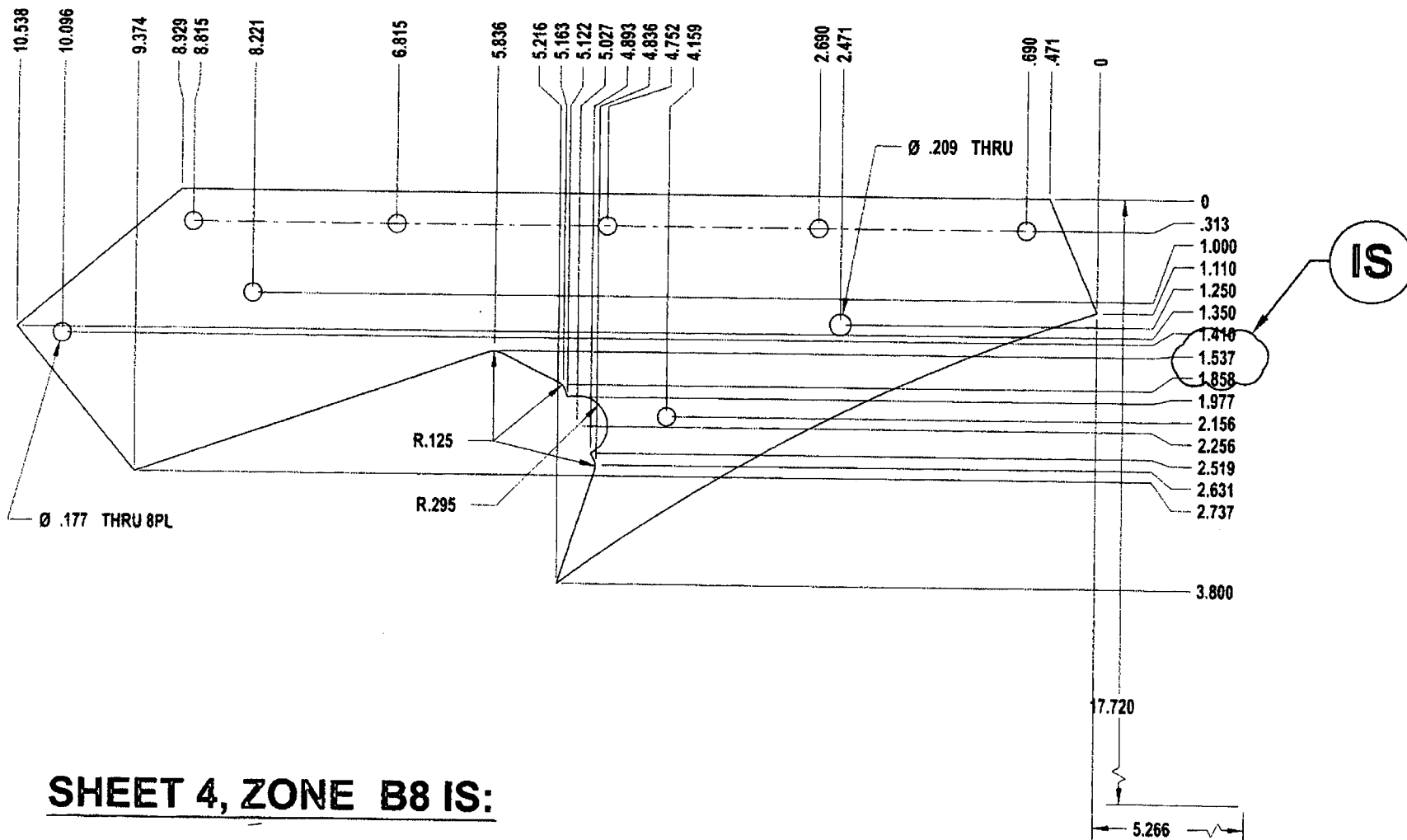
CHANGE CATEGORY

☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED

☐ YES ☒ NO

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 03724				SHEET 1 OF 1	
	DWG NO. 646.3300	REV: N/C	PREPARED BY B. PETERS	DATE: 12/05/12	EFFECT ON DWG ☐ INC. ☒ UNINC.	
	DWG TITLE: UPPER CUTTER ASSY					
APPROVED BY: ENGR <i>[Signature]</i>		MFG <i>[Signature]</i>		QC <i>[Signature]</i>	EFF: NEXT ORDER	
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE		REASON: REVISED ORDINATE DIMENSION.				ECR: D-12-025

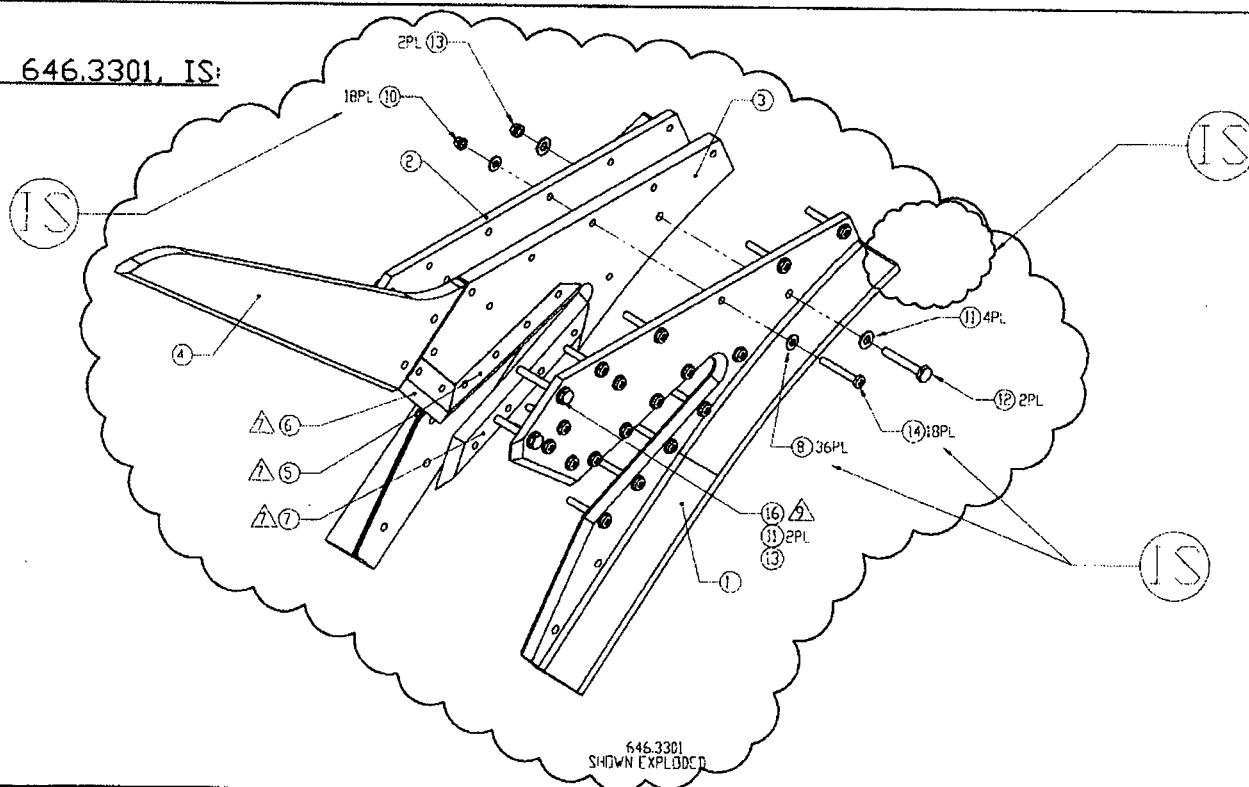


SHEET 4, ZONE B8 IS:

DOCUMENTS EFFECTED:	☐ RFMS ☐ MDL ☐ INSTALL INSTRUC ☐ ICA ☐ BOM	CHANGE CATEGORY	DER REVIEW REQUIRED
		☐ MAJOR ☒ MINOR	☐ YES ☒ NO

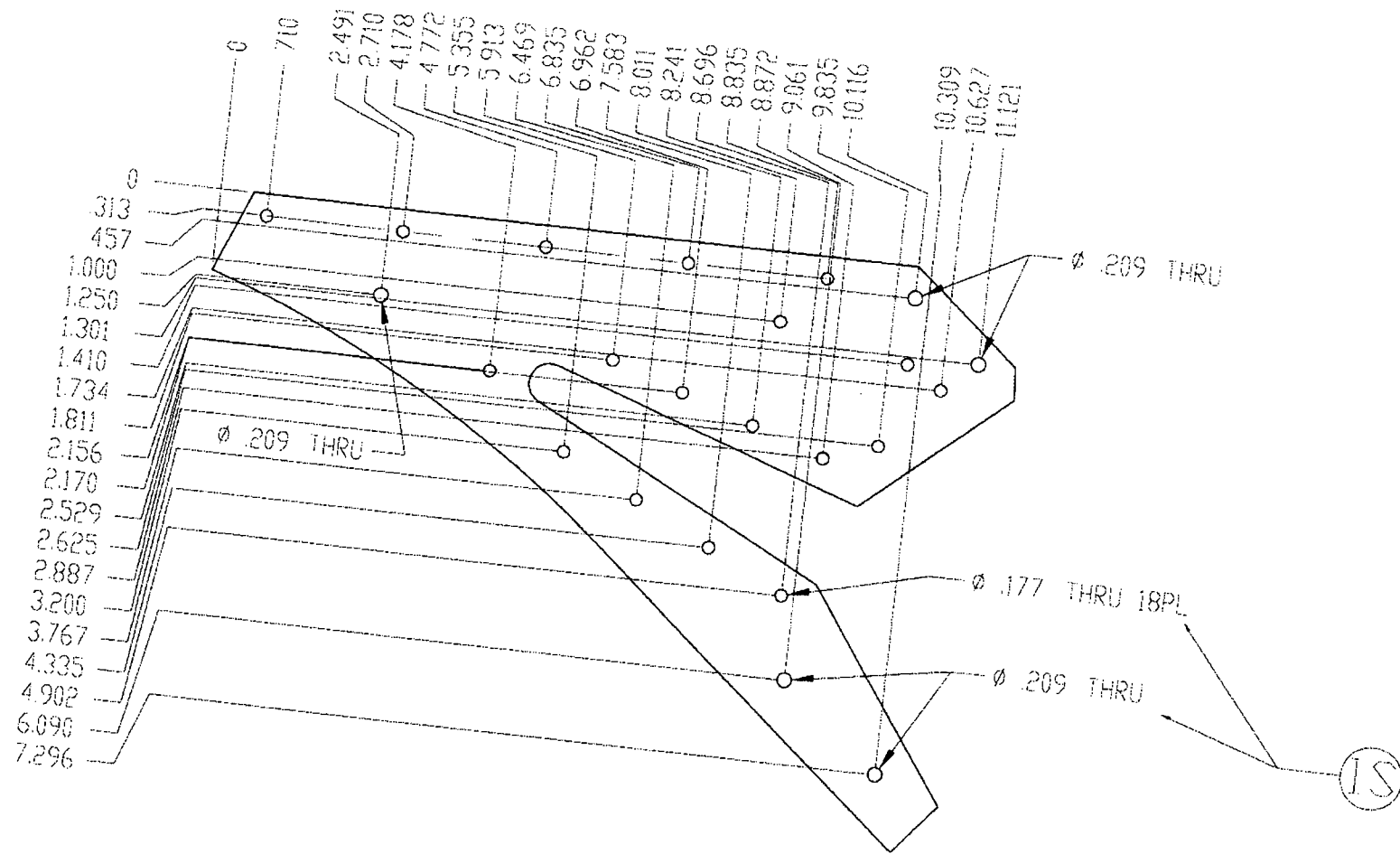
APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 02196		SHEET 1 OF 2	
	DWG NO. 646.3300	REV: N/C	PREPARED BY S. HUFF	DATE: 01/05/09
	EFFECT ON DWG ☐ INC. ☒ UNINC.			
	DWG TITLE: UPPER CUTTER ASSY			
APPROVED BY: ENGR <i>[Signature]</i>		MFG <i>[Signature]</i>	QC <i>[Signature]</i>	EFF: NEXT ORDER
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE		REASON: REMOVED RIVETS IN FAVOR OF ADDITIONAL SCREWS		

SHEET 1, VIEW 646.3301, IS:



14	R	601.2765		18	SCREW	MS27039-0819
10	R	601.1541		18	LOCKNUT	MS21042L08
9	D	601.2766		3	RIVET	MS20470AD5-18
8	R	601.2764		36	WASHER	NAS1149FN832P
				3301		
F/N TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL/SPECIFICATION		
DOCUMENTS EFFECTED:						CHANGE CATEGORY
						DER REVIEW REQUIRED
						☐ YES ☒ NO
						☐ MAJOR ☒ MINOR

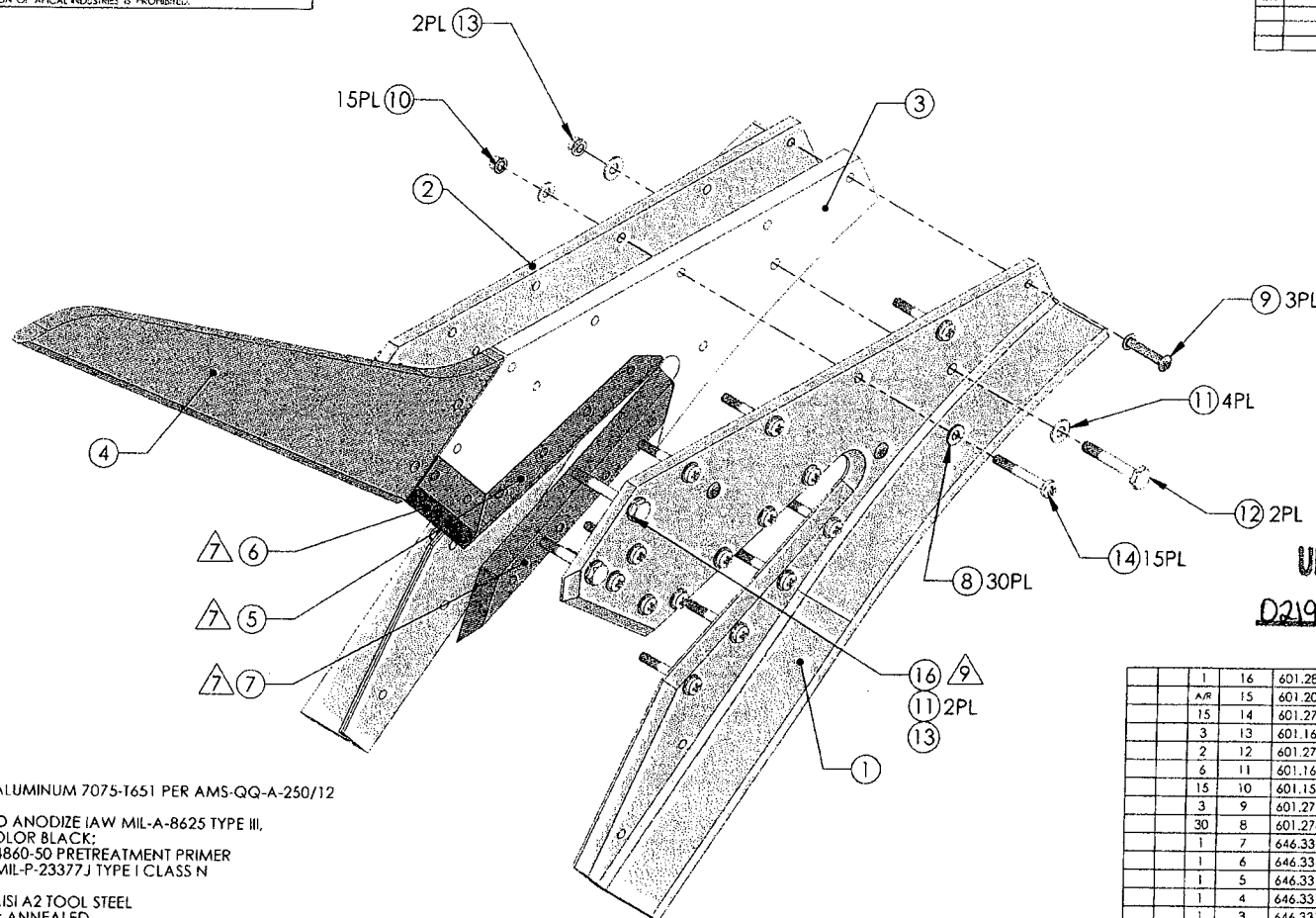
SHEET 3, SECTION VIEW A-A, IS:



PART NUMBER	QTY	DESCRIPTION	MATERIAL / SPECIFICATION
-------------	-----	-------------	--------------------------

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REV.	DESCRIPTION	DATE	APPROVED



UNINCORPORATED ECN(S)

02196, 03724, 04765

NOTES:

- 1 MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12
- 2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK; CARDINAL 4860-50 PRETREATMENT PRIMER PRIME IAW MIL-P-23377 J TYPE I CLASS N
- 3 MATERIAL: AISI A2 TOOL STEEL; CONDITION: ANNEALED; POST PROCESS: HEAT TREAT TO 58-62 Rc ROCKWELL HARDNESS
- 4 FINISH: PRIME IAW MIL-P-23377 J TYPE I CLASS N
- 5 DEBURR AND BREAK ALL SHARP EDGES EXCEPT WHERE OTHERWISE NOTED
- 6 IDENTIFY IAW MPP-120
- 7 APPLY F/N 15 AS REQUIRED TO ALL FAYING SURFACES OF F/N 5, 6 & 7 UPON ASSEMBLY
- 8 CUTTING EDGE INTENDED TO BE SHARP, DO NOT BREAK SHARP EDGE
- 9 INSTALL FASTENER FINGER-TIGHT

646.3301
SHOWN EXPLODED

QTY	1	16	601.2834	BOLT	AMS-14A	
	A/R	15	601.2045	RTV, LOCITE 598		
		15	14	601.2765	SCREW	M327039-0815
		3	13	601.1624	LOCKNUT	M32104513
		2	12	601.2763	BOLT	AMS-12A
		6	11	601.1607	WASHER	M32114910320P
		15	10	601.1541	LOCKNUT	M32104208
		3	9	601.2766	RIVET	M32047045-18
		30	8	601.2764	WASHER	M32114910320P
		1	7	646.3316	BLADE	
		1	6	646.3315	BLADE	
		1	5	646.3314	BLADE	
		1	4	646.3313	UPPER GUIDE	
		1	3	646.3312	CENTER PLATE	
		1	2	646.3311	RH HALF	
		1	1	646.3310	LH HALF	
				646.3301	UPPER CUTTER ASSY	
FIND #	PART #	DESCRIPTION	MAT'L	SPEC.		
1	16	601.2834	BOLT	AMS-14A		
2	15	601.2045	RTV, LOCITE 598			
3	14	601.2765	SCREW	M327039-0815		
4	13	601.1624	LOCKNUT	M32104513		
5	12	601.2763	BOLT	AMS-12A		
6	11	601.1607	WASHER	M32114910320P		
7	10	601.1541	LOCKNUT	M32104208		
8	9	601.2766	RIVET	M32047045-18		
9	8	601.2764	WASHER	M32114910320P		
10	7	646.3316	BLADE			
11	6	646.3315	BLADE			
12	5	646.3314	BLADE			
13	4	646.3313	UPPER GUIDE			
14	3	646.3312	CENTER PLATE			
15	2	646.3311	RH HALF			
16	1	646.3310	LH HALF			
17		646.3301	UPPER CUTTER ASSY			

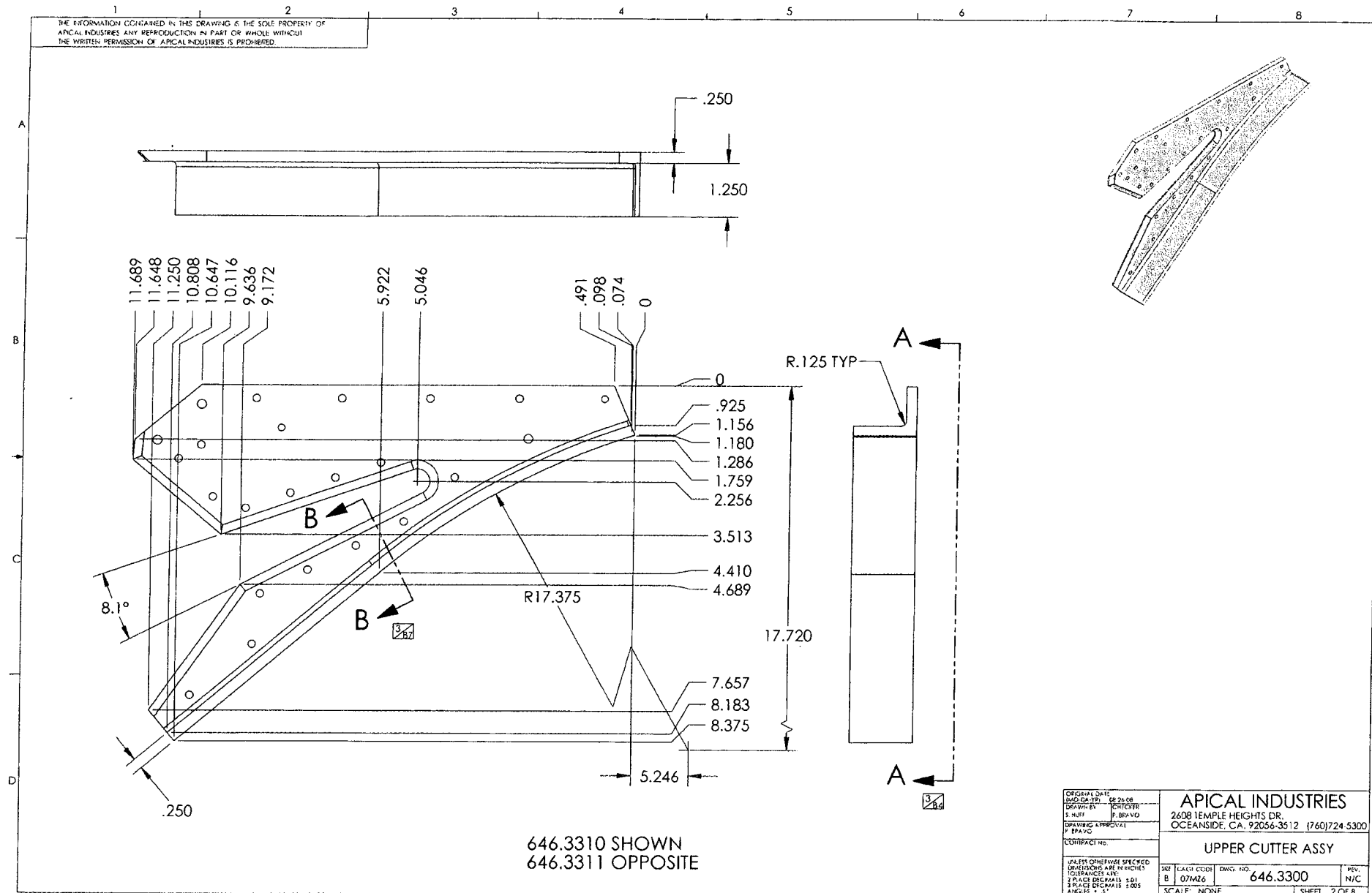
APICAL INDUSTRIES

2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760) 724-5300

UPPER CUTTER ASSY

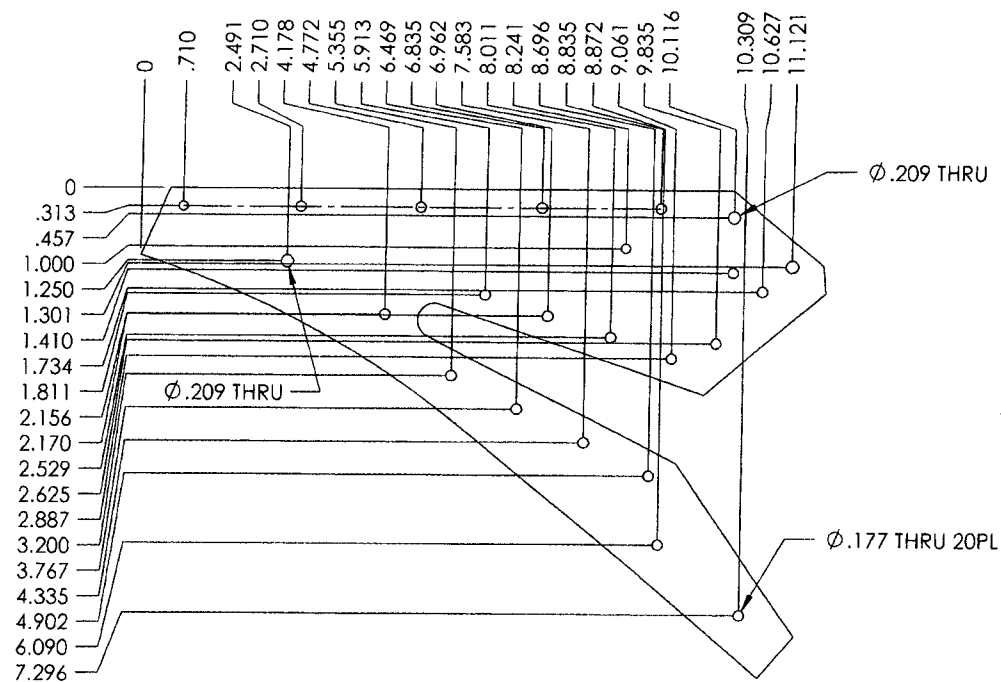
SET: 07MAZ6 DIVG: 646.3300 REV: H/C
SCALE: NONE SHEET: 1 OF 8

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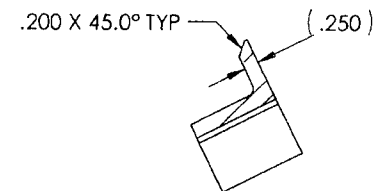
ORIGINAL DATE: 08/24/08		APICAL INDUSTRIES	
DRAWN BY: J. BRAY		2608 TEMPLE HEIGHTS DR.	
CHECKED BY: P. BRAY		OCEANSIDE, CA. 92056-3512 (760) 724-5300	
DRAWING APPROVAL: P. BRAY		UPPER CUTTER ASSY	
CONTRACT NO.		UNLESS OTHERWISE SPECIFIED	
TOLERANCES ARE IN INCHES		SIZE: B	REV: N/C
2 PLACE DECIMALS ± .01		EACH CODE: 07HA26	DWG. NO.: 646.3300
3 PLACE DECIMALS ± .005		SCALE: NONE	SHEET: 2 OF 8
ANGLES ± .5°			

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SECTION A-A

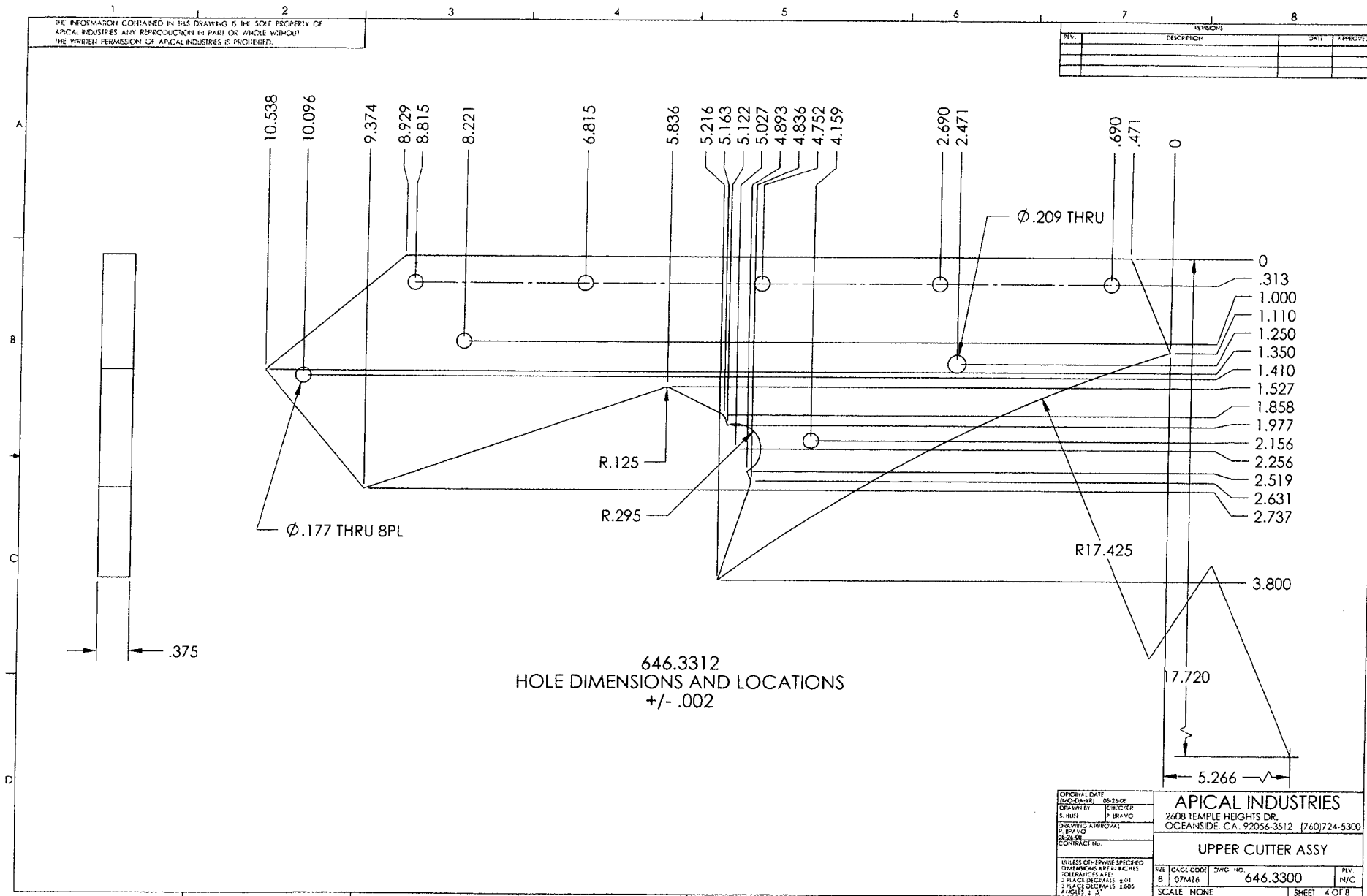
SECTION B-B



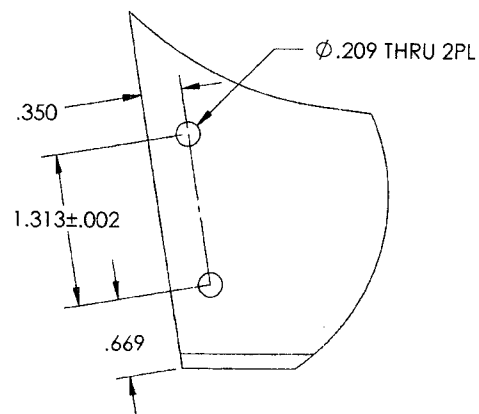
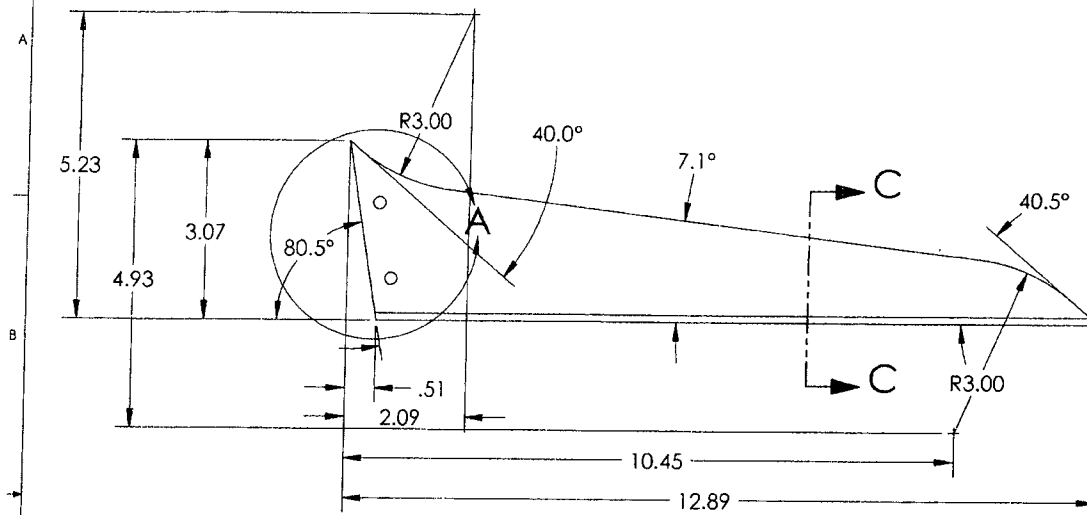
ORIGINAL DATE MDD-DAY-YR 08-26-00		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300	
DRAWN BY S. HURT	CHECKED D. BRAYO		
DRAWING APPROVAL			
ORIGINAL No.		UPPER CUTTER ASSY	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS INCHES ANGLES 2° 3°			
SHEET B	CAGE CODE 071426	QTY. NO. 646.3300	REV. N/C
SCALE NONE		SHEET 3 OF 8	

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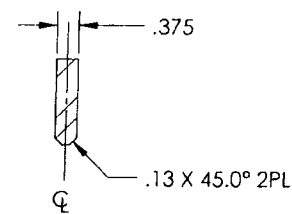
REV.	DESCRIPTION	DATE	APPROVED



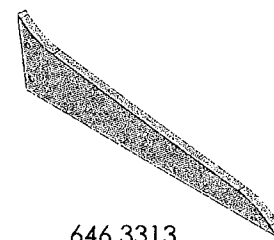
REVISIONS			
REV	DESCRIPTION	DATE	APPROVE



DETAIL A



SECTION C-C

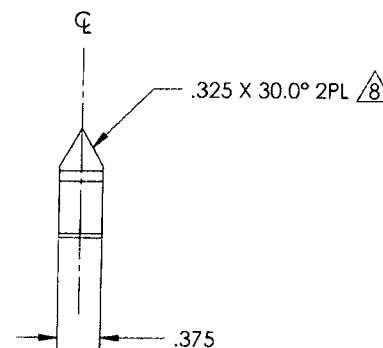
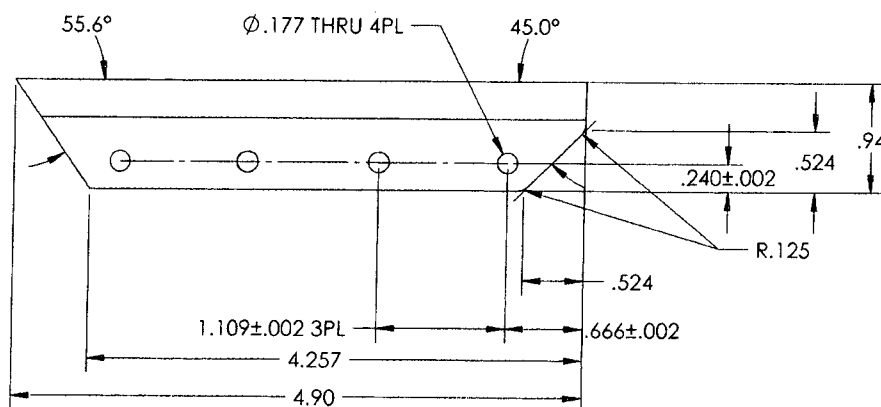


646.3313

ORIGINAL DATE (MO-DA-YR) 08-26-08	APICAL INDUSTRIES		
DRAWN BY C. HOFF	2608 FAIRLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300		
DESIGNED BY F. BRANO	UPPER CUTTER ASSY		
DATE 08-26-08			
PROJECT NO.			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DECIMALS ARE: 2 PLACES DECIMALS = .01 3 PLACES DECIMALS = .001 FRACTIONS	MFG SCALE	CAGE CODE 07A76	DWG NO 646.3300
	SCALE NONE		REV. N/C
			SHEET 5 OF 6

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

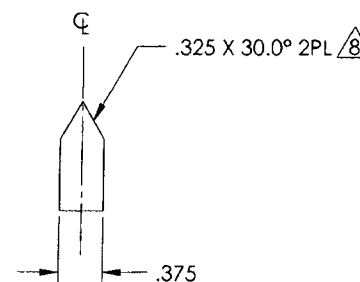
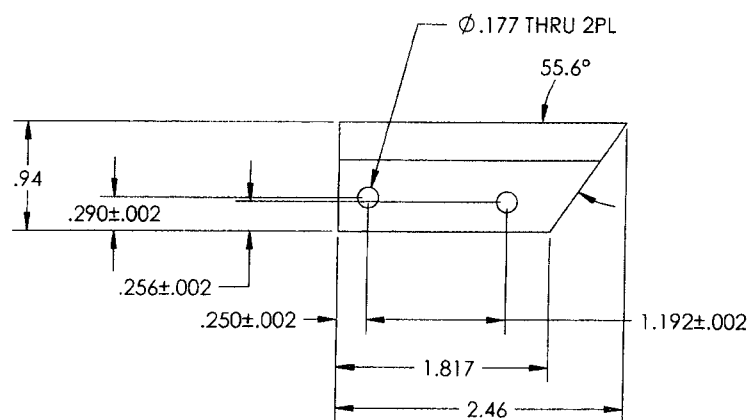
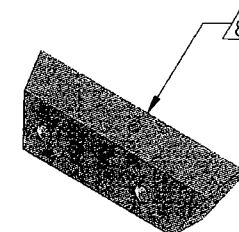


646.3314

ORIGINAL DATE: 08-26-06		APICAL INDUSTRIES	
DRAWN BY: S. HURF	CHECKED BY: M. BRAYO	2608 TEMPLE HEIGHTS DR.	
DRAWING APPROVAL: 08-26-06		OCEANSIDE, CA. 92056-3512 (760)724-5300	
CONTRACT NO.:		UPPER CUTTER ASSY	
UPPER CUTTER SPECIFIED DIMENSIONS ARE IN INCHES	REV.:	SCALE: NONE	SHEET: 6 OF 8
TOLERANCES ARE:	REV.:		
2 PLACE DECIMALS ± .01			
3 PLACE DECIMALS ± .005			
ANGLES ± .5°			

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

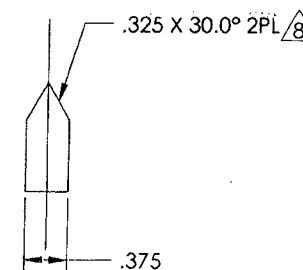
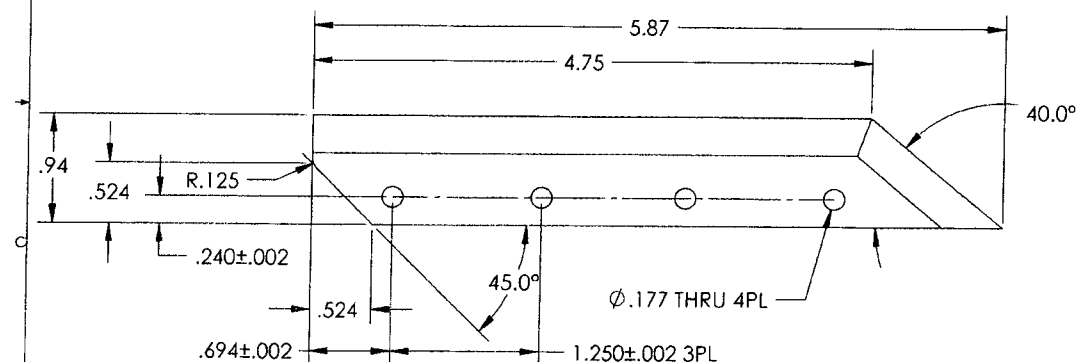
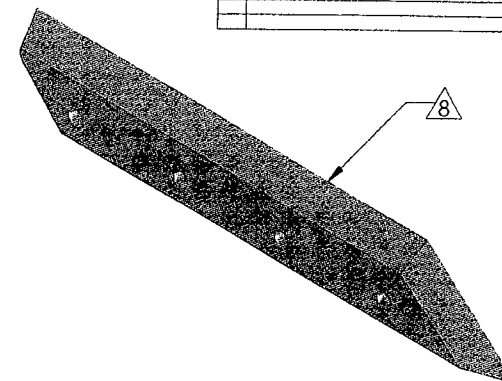


646.3315

ORIGINAL DATE: 08-26-06 2ND DATE: 08-26-06 DRAWN BY: J. HUNTER S. HUNTER		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300	
DRAWING APPROVAL P. BRAVO 08-26-06 CONTRACT NO.		UPPER CUTTER ASSY	
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		SER: B CAGE CODE: 07M16 SCALE: NONE	REV: N/C DWG NO: 646.3300 SHEET: 7 OF 8

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REV.	DESCRIPTION	DATE	APPROVED



646.3316

ORIGINAL DATE: 08-26-05		APICAL INDUSTRIES	
DRAWN BY: S. HUFF		2608 TEMPLE HEIGHTS DR.	
CHECKED BY: P. BRAVO		OCEANSIDE, CA. 92056-3512 (760) 724-5300	
DRAWING APPROVAL:		UPPER CUTTER ASSY	
DATE: 08-26-05		SCALE: NONE	
CONTRACT NO:		SHEET 8 OF 8	
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ± .5°		REV: B	REV: N/C

Jean-Luc Menard

From: Pablo Bravo
Sent: October-21-15 5:52 PM
To: Jean-Luc Menard
Subject: RE: 646.3312 DEVIATION?

JL,
The deviation should be acceptable.

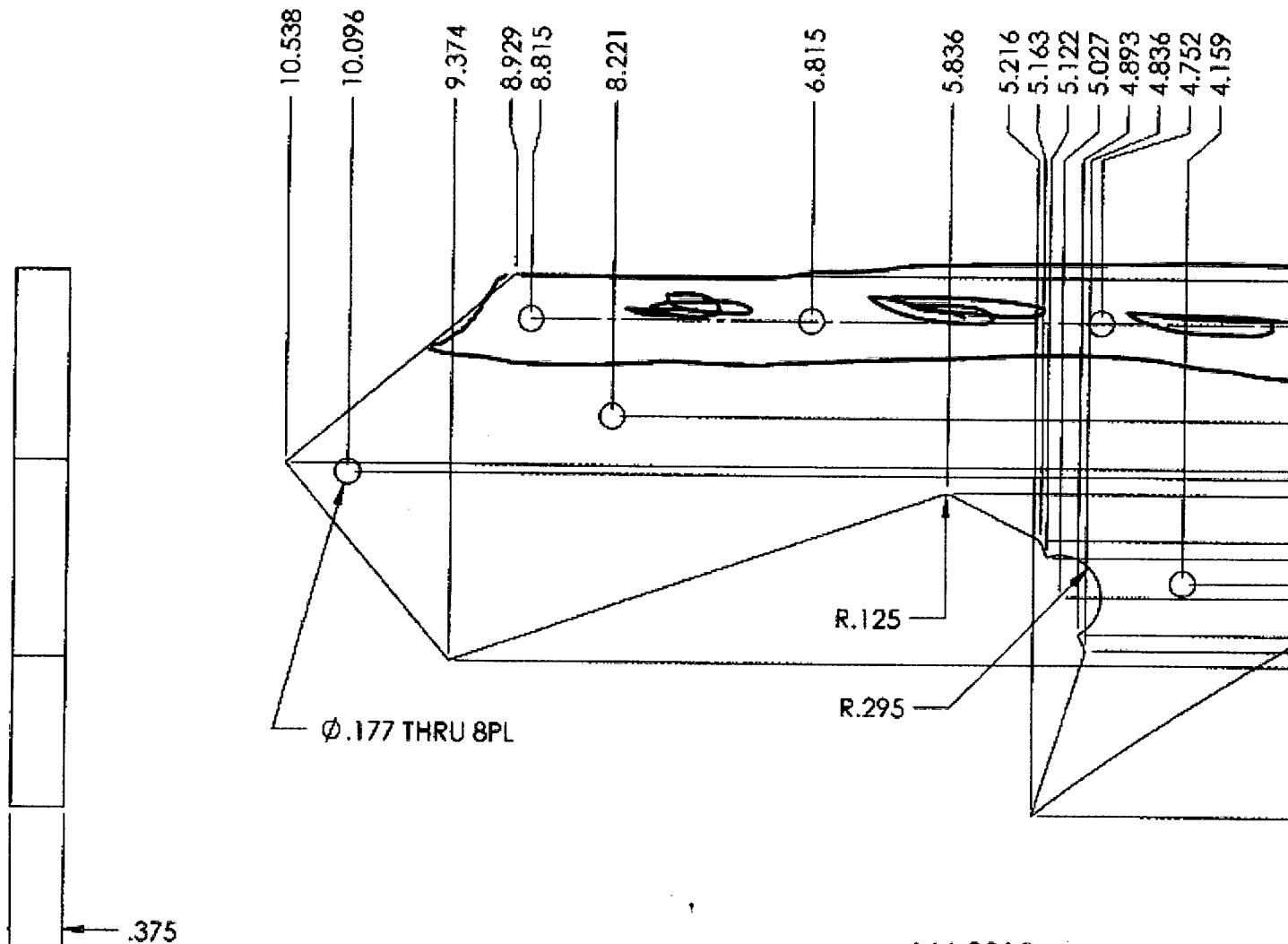
-Pablo

From: Jean-Luc Menard
Sent: Wednesday, October 21, 2015 4:54 AM
To: Pablo Bravo
Subject: FW: 646.3312 DEVIATION?

Any news on this?
JL

From: Jean-Luc Menard
Sent: October-08-15 12:59 PM
To: Pablo Bravo <pbravo@dartaero.com>
Subject: 646.3312 DEVIATION?

Hi Pablo,
We have some parts coming at .363 in the red section shown, is this acceptable?
THX
JL



646.3312
 HOLE DIMENSIONS AND LOCATIONS
 +/- .002

Jean-Luc Ménard
 Production Engineering Supervisor

DART AEROSPACE
 T 1 613 632-5200 > 227
 F 1 613 632-5246
 1 800 556- 4166
www.dartaerospace.com





Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO30318**

Purchase Order Date 10/30/2015

PO Print Date 11/3/2015

Page Number 1 of 2

Order From :

VC-ATG001

A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE ROAD
ROCKLAND, ON K4K 1T2
CANADA

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FAXED

Contact Name

Vendor Phone 613-446-4544

Ship To Contact

Ship To Phone

Ship Via: VENDOR'S TRUCK

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
----------	---	------------------------	--------------------------------------	----	--------------------------------	---------------	-------------------

1	136728	646.3312 center plate	11/5/2015 Yes 11/5/2015		8.00 ✓	\$45.00	\$360.00
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FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE 1 CLASS N

Line Total: \$360.00

2	71401-45	PROCUREMENT QUALITY CLAUSES	11/5/2015 No 11/5/2015		1.00 ✓	\$0.00	\$0.00
---	----------	--------------------------------	------------------------------	--	--------	--------	--------

Procurement Quality Clauses
A004 FAA-PMA /TSO
A005 RIGHT OF ENTRY
A016 PERSONNEL QUALIFICATION
A024 PROCESS CERTIFICATIONS
A025 CERTIFICATE OF CONFORMANCE
A041 QUALITY MANAGEMENT SYSTEM
A042 DART NOTIFICATION BY SUPPLIER
A043 RETENTION OF QUALITY DOCUMENTS

SP15-11-7

Note:

11/3/2015



A.T.G. Industries Inc.
731, rue Industrielle Rd.
PLATING DEPARTMENT
Rockland, On K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 63985

Date: 05-Nov-15

To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ship To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

Terms		Ship Via	
Quantity	Description	Rev:	Line:
8 ea	Part: 646.3312 CENTER PLATE HARD ANODIZE AS PER MIL-A-8625 TYPE III, CLASS 2 PRIME AS PER MIL-P-23377J TYPE I CLASS N PRIMER IS SUPPLY BY THE CUSTOMER Job: 20150815 PO: PO30318		
Certificate of Conformance A.T.G. Industries certifies that all items in this shipment are in conformance with all requirements, specifications and drawings referenced in the purchase order. ISO 9001 : 2008 REGISTERED ATG SALES-2010 TERMS APPLY DATE: <u>5/11/15</u> CERTIFIED SIGNATURE: <u></u> RECEIVER SIGNATURE: _____ <i>SP15-11-7</i>			